1104-05-218 **Henry Kvinge** and **Monica Vazirani***, Math Department, One Shields Ave, Davis, CA 95616.

Categorifying the tensor product of a level 1 *highest weight and perfect crystal.*

The irreducible representations of the symmetric group S_n are parameterized by partitions of n. One can use the partition, viewed as being built up row by row, to construct the module algebraically, piece by piece.

Over a field of characteristic p, the irreducible representations of S_n are parameterized by the "p-regular" partitions.

However, the analogous construction of these modules fails. We give an alternate (algebraic) construction of the modules, motivated by viewing the crystal of the basic representation of $\widehat{\mathfrak{sl}}_p$ as a limit of tensor products of level 1 perfect crystals. This construction relies on the theorem of Grojnowski relating the crystal of the basic representation to the simple S_n-modules and their behavior under restriction to S_{n-1}.

These constructions work for the level 1 cyclotomic KLR algebras of type $A^{(1)}$, and can be extended to other classical types. (Received September 02, 2014)